



SEQUENCE LISTING

<110> Henderson, D.R.
Schuur, E.R.

<120> TISSUE SPECIFIC VIRAL VECTORS

<130> 348022000221

<140> Unassigned

<141> Herewith

<150> 08/669,753

<151> 1996-06-26

<150> 08/495,034

<151> 1995-06-27

<160> 71

<170> PatentIn Ver. 2.0

<210> 1

<211> 5836

<212> DNA

<213> Homo sapiens

<400> 1

aagcttctag ttttcttttc ccggtgacat cgtggaaagc actagcatct ctaagcaatg 60
atctgtgaca atattcacag tgtaatgcc a tccaggg aac tcaactgagc cttgatgtcc 120
agagattttt gtgttttttt ctgagactga gtctcgctct gtgccaggct ggagtgcagt 180
ggtgcaacct tggctcactg caagctccgc ctctggggtt cagccattc tctgcctca 240
gcctcctgag tagctgggac tacaggcacc cgccaccacg cctggcta at ttttttgtat 300
ttttagtaga gatgggggtt cactgtgtta gccaggatgg tctcagtctc ctgacctcgt 360
gatctgccc a ccttggcctc ccaaagtgtc gggatgacag gcgtgagcca ccgcgcctgg 420
ccgatatcca gagatttttt ggggggctcc atcacacaga catgttgact gtcttcatgg 480
ttgactttta gtatccagcc cctctagaaa tctagctgat atagtgtggc tcaaaacctt 540
cagcacaat cacaccgtta gactatctgg tgtggcccaa accttcaggt gaacaaagg 600
actcta atct ggcaggatat tccaaagcat tagagatgac ctcttgcaaa gaaaaagaaa 660
tgga aaagaa aaagaaagaa agga aaaaaa aaaaaaaa gagatgacct ctcaggctct 720
gaggggaaac gcctgaggtc tttgagcaag gtcagtcctc tgttgacacag tctccctcac 780
agggtcattg tgacgatcaa atgtggtcac gtgtatgagg caccagcaca tgccctggctc 840

tggggagtgc cgtgtaagtg tatgcttgca ctgctgaatg cttgggatgt gtcagggatt 900
 atcttcagca cttacagatg ctcatctcat cctcacagca tcactatggg atgggtatta 960
 ctggcctcat ttgatggaga aagtggctgt ggctcagaaa ggggggacca ctagaccagg 1020
 gacactctgg atgctgggga ctccagagac catgaccact caccaactgc agagaaatta 1080
 attgtggcct gatgtccctg tcctggagag ggtggaggtg gaccttcaact aacctcctac 1140
 cttgaccctc tcttttaggg ctctttctga cctccacat ggtactagga cccattgta 1200
 ttctgtaccc tcttgactct atgaccccca ctgcccactg catccagctg ggtccctcc 1260
 tatctctatt cccagctggc cagtgcagtc tcagtgccca cctgtttgtc agtaactctg 1320
 aaggggctga cattttactg acttgcaaac aaataagcta actttccaga gttttgtgaa 1380
 tgctggcaga gtccatgaga ctccctgagtc agaggcaaag gcttttactg ctcacagctt 1440
 agcagacagc atgaggttca tgttcacatt agtacacctt gccccccca aatctttag 1500
 ggtgaccaga gcagtctagg tggatgctgt gcagaagggg tttgtgccac tggtgagaaa 1560
 cctgagatta ggaatcctca atcttatact gggacaactt gcaaacctgc tcagcctttg 1620
 tctctgatga agatattatc ttcattgatct tggattgaaa acagacctac tctggaggaa 1680
 catattgtat cgattgtcct tgacagtaaa caaatctgtt gtaagagaca ttatctttat 1740
 tatctaggac agtaagcaag cctggatctg agagagatat catcttgcaa ggatgcctgc 1800
 ttacaaaaca tccttgaaac aacaatccag aaaaaaaaaag gtgttgctgt ctttgctcag 1860
 aagacacaca gatactgac agaaccatgg agaattgcct cccaacgctg ttcagccaga 1920
 gccttccacc cttgtctgca ggacagtctc aacgttccac cattaaatac ttcttctatc 1980
 acatcctgct tctttatgcc taaccaaggt tctaggtccc gatcgactgt gtctggcagc 2040
 actccactgc caaaccaga ataaggcagc gctcaggatc ccgaaggggc atggctgggg 2100
 atcagaactt ctgggtttga gtgaggagtg ggtccacct cttgaatttc aaaggaggaa 2160
 gaggctggat gtgaaggtag tgggggaggg aaagtgtcag ttccgaactc ttaggtcaat 2220
 gagggaggag actggtaagg tcccagctcc cgaggtagctg atgtgggaat ggcctaagaa 2280
 tctcatatcc tcaggaagaa ggtgctggaa tcctgagggg tagagttctg ggtatatttg 2340
 tggcttaagg ctctttggcc cctgaaggca gaggctggaa ccattaggctc cagggtttgg 2400
 ggtgatagta atgggatctc ttgattcctc aagagtctga ggatcgaggg ttgcccattc 2460
 ttccatcttg ccacctaata cttactccac ttgaggggat caccagccct tctagctcca 2520
 tgaaggcccc ctgggcaagc acaatctgag catgaaagat gcccagagg ccttgggtgt 2580

catccactca tcatccagca tcacactctg aggggtgtggc cagcaccatg acgtcatggt 2640
gctgtgacta tccctgcagc gtgcctctcc agccacctgc caaccgtaga gctgcccatac 2700
ctcctctggt gggagtggcc tgcattgtgc caggctgagg cctagtgtca gacagggagc 2760
ctggaatcat agggatccag gactcaaaag tgctagagaa tggccatatg tcaccatcca 2820
tgaaatctca agggcttctg ggtggagggc acagggacct gaacttatgg tttcccaagt 2880
ctattgctct cccaagttag tctcccagat acgaggcact gtgccagcat cagccttatc 2940
tccaccacat cttgtaaaag gactaccagc ggccttgatg aacaccatgg tgtgtacagg 3000
agtagggggg ggaggcacgg actcctgtga ggtcacagcc aaggagcat catcatgggt 3060
ggggaggagg caatggacag gcttgagaac ggggatgtgg ttgtatttgg ttttctttgg 3120
ttagataaag tgctgggtat aggattgaga gtggagtatg aagaccagtt aggatggagg 3180
atcagattgg agttgggtta gataaagtgc tgggtatagg attgagagtg gagtatgaag 3240
accagttagg atggaggatc agattggagt tgggttagag atggggtaaa attgtgctcc 3300
ggatgagttt gggattgaca ctgtggaggt ggtttgggat ggcattggctt tgggatggaa 3360
atagatttgt tttgatgttg gctcagacat ccttggggat tgaactgggg atgaagctgg 3420
gtttgatattt ggaggtagaa gacgtggaag tagctgtcag atttgacagt ggccatgagt 3480
tttgtttgat ggggaatcaa acaatggggg aagacataag ggttggttg ttaggttaag 3540
ttgcgttggg ttgatgggtt cggggctgtg tataatgcag ttggattggg ttgtattaaa 3600
ttgggttggg tcaggttttg gttgaggatg agttgaggat atgcttgggg acaccggatc 3660
catgaggttc tcaactggagt ggagacaaac ttcctttcca ggatgaatcc agggaagcct 3720
taattcacgt gtaggggagg tcaggccact ggctaagtat atccttcac tccagctcta 3780
agatgggtctt aaattgtgat tatctatata cacttctgtc tccctcactg tgcttggagt 3840
ttacctgac actcaactag aaacagggga agattttatc aaattctttt tttttttttt 3900
ttttttttga gacagagtct cactctgttg ccaggctgg agtgcatgg cgcatgtctg 3960
gctcactgca acctctgcct ccagggttca agtgattctc ctgcctcagc ctctgagtt 4020
gctgggatta caggcatgca gcaccatgcc cagctaattt ttgtattttt agtagagatg 4080
gggtttcacc aatgtttgcc aggtggcct cgaactcctg acctggtgat ccacctgcct 4140
cagcctccca aagtgtctggg attacaggcg tcagccaccg cggccagcca cttttgtcaa 4200
attcttgaga cacagctcgg gctggatcaa gtgagctact ctggttttat tgaacagctg 4260

aaataaccaa ctttttggaa attgatgaaa tcttacggag ttaacagtgg aggtaccagg 4320
gctcttaaga gttcccgatt ctcttctgag actacaaatt gtgattttgc atgccacctt 4380
aatctttttt tttttttttt taaatcgagg tttcagtctc attctatttc ccaggctgga 4440
gttcaatagc gtgatcacag ctactgtag ccttgaactc ctggccttaa gagattctcc 4500
tgcttcgggc tcccaatagc taagactaca gtagtcacc accatatcca gataattttt 4560
aaattttttg gggggccggg cacagtggct cagcctgta atcccaacac catgggaggc 4620
tgagatgggt ggatcacgag gtcaggagtt tgagaccagc ctgaccaaca tggtgaaact 4680
ctgtctctac taaaaaaaaa aaaaatagaa aaattagccg ggcgtgggtg cacacggcac 4740
ctgtaatccc agctactgag gaggtgagg caggagaatc acttgaacct agaaggcaga 4800
ggttgcaatg agccgagatt gcgccactgc actccagcct gggtgacaga gtgagactct 4860
gtctcaaaaa aaaaaaat tttttttttt ttgtagaga tggatcttgc tttgtttctc 4920
tggttggcct tgaactcctg gcttcaagt atcctcctac cttggcctcg gaaagtgttg 4980
ggattacagg cgtgagccac catgactgac ctgtcgtaa tcttgaggta cataaacctg 5040
gctcctaaag gctaaaggct aaatatgtt tgagaaggg gcattggatt ttgcatgagg 5100
atgattctga cctgggaggg caggtcagca ggcactcttg ttgcacagat agagtgtaca 5160
ggtctggaga acaaggagt gggggttatt ggaattccac attgtttgct gcacgttggg 5220
ttttgaaatg ctagggaact ttgggagact catatttctg ggctagagga tctgtggacc 5280
acaagatctt tttatgatga cagtagcaat gtatctgttg agctggattc tgggttggga 5340
gtgcaaggaa aagaatgtac taaatgccaa gacatctatt tcaggagcat gaggaataaa 5400
agttctagtt tctggtctca gagtggtgca gggatcaggg agtctcaca tctcctgagt 5460
gctggtgtct tagggcacac tgggtcttgg agtgcaaagg atctaggcac gtgaggcttt 5520
gtatgaagaa tcgggggatc taccacccc ctgtttctgt ttcaccttg gcattgtctcc 5580
tctgcctttg tcccctagat gaagtctcca tgagctacaa ggcctgggtg catccagggt 5640
gatctagtaa ttgcagaaca gcaagtgcta gctctccctc ccctccaca gctctgggtg 5700
tgaggagggg ttgtccagcc tccagcagca tggggagggc cttggtcagc ctctgggtgc 5760
cagcagggca ggggcggagt cctggggaat gaaggtttta tagggctcct ggggagggt 5820
ccccagcccc aagctt 5836

<210> 2

<211> 5835

<212> DNA
<213> Homo sapiens

<400> 2

aagcttctag ttttcttttc ccggtgacat cgtggaaagc actagcatct ctaagcaatg 60
atctgtgaca atattcacag tgtaatgcca tccagggaaac tcaactgagc cttgatgtcc 120
agagattttt gtgttttttt ctgagactga gtctcgctct gtgccaggct ggagtgcagt 180
ggtgcaacct tggtcactg caagctccgc ctctggggtt cagccattc tcctgcctca 240
gcctcctgag tagctgggac tacaggcacc cggcaccacg cctggctaata ttttttgtat 300
ttttagtaga gatgggggtt cactgtgtta gccaggatgg tctcagtctc ctgacctcgt 360
gatctgcca ccttggcctc ccaaagtgtt gggatgacag gcgtgagcca ccgcgcctgg 420
ccgatatcca gagatttttt ggggggctcc atcacacaga catgttgact gtcttcatgg 480
ttgactttta gtatccagcc cctctagaaa tctagctgat atagtgtggc tcaaaacctt 540
cagcacaaat cacaccgtta gactatctgg tgtggcccaa accttcaggt gaacaaaggg 600
actctaactt ggcaggatac tccaaagcat tagagatgac ctcttgcaaa gaaaaagaaa 660
tgaaaaagaa aaagaaagaa aggaaaaaaa aaaaaaaaaa gagatgacct ctcaggctct 720
gaggggaaac gcctgaggtc tttgagcaag gtcagtcctc tgttgacag tctccctcac 780
agggtcattg tgacgatcaa atgtgggtcac gtgtatgagg caccagcaca tgcctggctc 840
tggggagtg cgtgtaagt tatgcttgca ctgctgaatg gctgggatgt gtcagggatt 900
atcttcagca cttacagatg ctcatctcat cctcacagca tcaactatggg atgggtatta 960
ctggcctcat ttgatggaga aagtggctgt ggctcagaaa ggggggacca ctagaccagg 1020
gacactctgg atgctgggga ctccagagac catgaccact caccaactgc agagaaatta 1080
attgtggcct gatgtccctg tcctggagag ggtggaggtg gaccttcaact aacctcctac 1140
cttgaccctc tcttttaggg ctctttctga cctccaccat ggtactagga cccattgta 1200
ttctgtacc tcttgactct atgaccccca ccgcccactg catccagctg ggtcccctcc 1260
tatctctatt ccagctggc cagtgcagtc tcagtgccca cctgtttgtc agtaactctg 1320
aaggggctga cattttactg acttgcaaac aaataagcta actttccaga gttttgtgaa 1380
tgctggcaga gtccatgaga ctctgagtc agaggcaaag gcttttactg ctcacagctt 1440
agcagacagc atgaggttca tgttcacatt agtacacctt gccccccca aatctttag 1500
ggtgaccaga gcagtctagg tggatgctgt gcagaagggg tttgtgccac tggtgagaaa 1560
cctgagatta ggaatcctca atcttatact gggacaactt gcaaactgc tcagcctttg 1620

tctctgatga agatattatc ttcattgatct tggattgaaa acagacctac tctggaggaa 1680
catattgtat cgattgtcct tgacagtaaa caaatctggt gtaagagaca ttatctttat 1740
tatctaggac agtaagcaag cctggatctg agagagatat catcttgcaa ggatgcctgc 1800
tttacaacaa tccttgaaac aacaatccag aaaaaaaaaag gtgttactgt ctttgctcag 1860
aagacacaca gatactgac agaaccatgg agaattgcct cccaacgctg ttcagccaga 1920
gccttccacc ctttctgcag gacagtctca acgttccacc attaaatact tcttctatca 1980
catcccgtt ctttatgcct aaccaagggt ctaggtcccg atcgactgtg tctggcagca 2040
ctccactgcc aaaccagaa taaggcagcg ctccaggatcc cgaaggggca tggctgggga 2100
tcagaacttc tgggtttgag tgaggagtgg gtccaccctc ttgaatttca aaggaggaag 2160
aggctggatg tgaaggtact gggggaggga aagtgtcagt tccgaactct taggtcaatg 2220
agggaggaga ctggtaagggt ccagctccc gaggtactga tgtgggaatg gcctaagaat 2280
ctcatatcct caggaagaag gtgctggaat cctgaggggt agagtcttggt gtatatattgt 2340
ggcttaaggc tctttggccc ctgaaggcag aggctggaac cattaggtcc agggtttggg 2400
gtgatagtaa tgggatctct tgattcctca agagtctgag gatcgagggt tgccattct 2460
tccatcttgc cacctaattc ttactccact tgagggtatc accagccctt ctactccat 2520
gaagggtccc tgggcaagca caatctgagc atgaaagatg cccagaggc cttgggtgtc 2580
atccactcat catccagcat cacactctga ggggtgtggc agcaccatga cgtcatgtt 2640
ctgtgactat ccctgcagcg tgctctcca gccacctgcc aaccgtagag ctgcccattc 2700
tcctctggtg ggagtggcct gcatggtgcc aggctgaggc ctagtgtcag acaggagacc 2760
tggaatcata gggatccagg actcaaaagt gctagagaat ggccatatgt caccatccat 2820
gaaatctcaa gggcttctgg gtggagggca caggacctg aacttatggt ttccaagtc 2880
tattgctctc ccaagtgagt ctcccagata cgaggcactg tgccagcatc agccttatct 2940
ccaccacatc ttgtaaaagg actaccagg gccctgatga acaccatggt gtgtacagga 3000
gtagggggtg gaggcacgga ctctgtgag gtcacagcca agggagcatc atcatgggtg 3060
gggaggaggc aatggacagg cttgagaacg gggatgtggt tgtatttgggt tttctttgggt 3120
tagataaagt gctgggtata ggattgagag tggagtatga agaccagtta ggatggagga 3180
tcagattgga gttgggttag ataaagtgtc gggatatagga ttgagagtgg agtatgaaga 3240
ccagttagga tggaggatca gattggagtt gggtagaga tggggtaaaa ttgtgctccg 3300

gatgagtttg ggattgacac tgtggaggtg gtttgggatg gcatggcttt gggatggaaa 3360
tagatttggt ttgatgttgg ctacagacatc cttggggatt gaactgggga tgaagctggg 3420
tttgattttg gaggtagaag acgtggaagt agctgtcaga tttgacagtg gccatgagtt 3480
ttgtttgatg gggaatcaaa caatggggga agacataagg gttggcttgt taggttaaagt 3540
tgcgttgggt tgatggggtc ggggctgtgt ataatgcagt tggattgggt tgtattaaat 3600
tgggttgggt caggtttttg ttgaggatga gttgaggata tgcttgggga caccggatcc 3660
atgaggttct cactggagtg gagacaaact tcctttccag gatgaatcca gggaaagcctt 3720
aattcacgtg taggggaggt caggccactg gctaagtata tccttccact ccagctctaa 3780
gatggtctta aattgtgatt atctatatcc acttctgtct ccctcactgt gcttggagtt 3840
tacctgatca ctcaactaga aacaggggaa gattttatca aattcttttt tttttttttt 3900
tttttttgag acagagtctc actctgttgc ccaggctgga gtgcagtggc gcagtctcgg 3960
ctcactgcaa cctctgcctc ccagggtcaa gtgattctcc tgcctcagcc tcctgagttg 4020
ctgggattac aggcattgcag caccatgccc agctaatttt tgtattttta gtagagatgg 4080
ggtttcacca atgtttgccg ggctggcctc gaactcctga cctggtgatc cacctgcctc 4140
agcctcccaa agtgctggga ttacaggcgt cagccaccgc gccagccac ttttgtcaaa 4200
ttcttgagac acagctcggg ctggatcaag tgagctactc tggttttatt gaacagctga 4260
aataaccaac tttttgaaa ttgatgaaat cttacggagt taacagtgga ggtaccaggg 4320
ctcttaagag ttcccgatc tcttctgaga ctacaaattg tgattttgca tgccacctta 4380
atcttttttt tttttttttt aaatcgaggt ttcagtctca ttctatttcc caggctggag 4440
ttcaatagcg tgatcacagc tcaactgtagc cttgaactcc tggccttaag agattctcct 4500
gcttcggtct cccaatagct aagactacag tagtccacca ccatatccag ataattttta 4560
aatttttttg ggggccgggc acagtggctc acgcctgtaa tcccaacacc atgggagggt 4620
gagatgggtg gatcacgagg tcaggagttt gagaccagcc tgaccaacat ggtgaaactc 4680
tgtctctact aaaaaaaaaa aaaatagaaa aattagccgg gcgtgggtggc acacggcacc 4740
tgtaatccca gctactgagg aggctgaggc aggagaatca cttgaaccca gaaggcagag 4800
gttgcaatga gccgagattg cgccactgca ctccagcctg ggtgacagag tgagactctg 4860
tctcaaaaaa aaaaaatttt tttttttttt ttgtagagat ggatcttgct ttgtttctct 4920
ggttggcctt gaactcctgg cttcaagtga tcctcctacc ttggcctcgg aaagtgttgg 4980
gattacaggc gtgagccacc atgactgacc tgtcgttaat cttgaggtag ataaacctgg 5040

ctctctaaagg ctaaaggcta aatatttggt ggagaagggg cattggattt tgcattgagga 5100
 tgattctgac ctgggagggc aggtcagcag gcatctctgt tgcacagata gattgtacag 5160
 gtctggagaa caaggagtgg ggggttattg gaattccaca ttgtttgctg cacgttggat 5220
 tttgaaatgc tagggaactt tgggagactc atatttctgg gctagaggat ctgtggacca 5280
 caagatcttt ttatgatgac agtagcaatg tatctgtgga gctggattct ggggttgggag 5340
 tgcaaggaaa agaattgtact aaatgccaaag acatctattt caggagcatg aggaataaaa 5400
 gttctagtgt ctggtctcag agtgggtgcat ggatcaggga gtctcacaat ctctgagtgt 5460
 ctggtgtctt agggcacact gggctcttga gtgcaaagga tctaggcacg tgaggctttg 5520
 tatgaagaat cggggatcgt acccaccccc tgtttctggt tcactctggg catgtctcct 5580
 ctgcctttgt cccctagatg aagtctccat gagctacaag ggcctgggtgc atccaggggtg 5640
 atctagtaat tgcagaacag caagtgttag ctctccctcc ccttcacag ctctgggtgt 5700
 gggagggggg tgtccagcct ccagcagcat ggggagggcc ttggtcagcc tctgggtgcc 5760
 agcagggcag gggcggagtc ctggggaatg aagggtttat agggctcctg ggggaggctc 5820
 cccagcccca agctt 5835

<210> 3
 <211> 12047
 <212> DNA
 <213> Homo sapiens

<400> 3
 gaattcagaa ataggggaag gttgaggaag gacactgaac tcaaagggga tacagtgatt 60
 ggtttatttg tcttctcttc acaacattgg tgctggagga attcccaccc tgaggttatg 120
 aagatgtctg aacacccaac acatagcact ggagatatga gctcgacaag agtttctcag 180
 ccacagagat tcacagccta gggcaggagg aactgtacg ccaggcagaa tgacatggga 240
 attgcgctca cgattggctt gaagaagcaa ggactgtggg aggtgggctt tgtagtaaca 300
 agagggcagg gtgaactctg attcccatgg ggggaatgtga tggctctgtt acaaattttt 360
 caagctggca ggggaataaaa cccattacgg tgaggacctg tggagggcgg ctgccccaac 420
 tgataaagga aatagccagg tgggggcctt tcccattgta ggggggacat atctggcaat 480
 agaagccttt gagacccttt aggggtacaag tactgaggca gcaaataaaa tgaaatctta 540
 tttttcaact ttatactgca tgggtgtgaa gatataattt tttctgtaca ggggggtgagg 600
 gaaaggaggg gaggaggaaa gttcctgcag gtctggtttg gtcttgtgat ccaggggggtc 660

ttggaactat ttaaattaaa ttaaattaaa acaagcgact gtttttaaatt aaattaaatt 720
 aaattaaatt ttactttatt ttatcttaag ttctgggcta catgtgcagg acgtgcagct 780
 ttgttacata ggtaaacgtg tgccatgggtg gtttgctgta cctatcaacc catcacctag 840
 gtattaagcc cagcatgcat tagctgtttt tcctgacgct ctccctctcc ctgactccca 900
 caacaggccc cagtgtgtgt tgttccccctc cctgtgtcca tgtgttctca ttgttcagct 960
 cccacttata agtgagaaca tgtggtgttt ggttttctgt ttctgtgtta gtttgctgag 1020
 gataatggct tccacctcca tccatgttcc tgcaaaggac gtgatcttat tcttttttat 1080
 ggttgcatag aaattgtttt taaaaatcca attgatattg tatttaatta caagttaatc 1140
 taattagcat actagaagag attacagaag atattaggta cattgaatga ggaaatatat 1200
 aaaataggac gaaggtgaaa tattaggtag gaaaagtata atagttgaaa gaagtaaaaa 1260
 aaaatatgca tgagtagcag aatgtaaaag aggtgaagaa cgtaatagtg actttttaga 1320
 ccagattgaa ggacagagac agaaaaatth taaggaattg ctaaaccatg tgagtgttag 1380
 aagtacagtc aataacatta aagcctcagg aggagaaaag aataggaaaag gaggaaatat 1440
 gtgaataaat agtagagaca tgtttgatgg attttaaaat atttgaaaga cctcacatca 1500
 aaggattcat accgtgccat tgaagaggaa gatggaaaag ccaagaagcc agatgaaagt 1560
 tagaaatatt attggcaaag cttaaagtgt aaaagtccta gagagaaaag atggcagaaa 1620
 tattggcggg aaagaatgca gaacctagaa tataaattca tcccaacagt ttggtagtgt 1680
 gcagctgtag ccttttctag ataatacact attgtcatac atcgcttaag cgagtgtaaa 1740
 atggtctcct cactttatth atttatatat ttatttagtt ttgagatgga gcctcgctct 1800
 gtctcctagg ctggagtgca atagtgcgat accactcact gcaacctctg cctcctctgt 1860
 tcaagtgatt ttcttacctc agcctcccga gtagctggga ttacaggtgc gtgccaccac 1920
 acccggtcaa tttttgtatt ttttgtagag acgggggttt gccatgttgg ccaggctggt 1980
 cttgaactcc tgacatcagg tgatccacct gccttggcct cctaaagtgc tgggattaca 2040
 ggcagagacc accgtgccca accactttat ttatttttta tttttatth taaatttcag 2100
 cttctatth aaatacaggg ggcacatata taggattgtt acatgggtat attgaactca 2160
 ggtagtgatc atactacca acaggtaggt tttcaacca ctccccctct tttcctcccc 2220
 attctagtag tgtgcagtgt ctattgttct catgtttatg tctatgtgtg ctccaggtht 2280
 agtccccacc tgtaagttag aacgtgtggt atttgattth ctgtccctgt gtttaattcac 2340

ttaggattat ggcttccagc tccattcata ttgctgtaaa ggatatgatt cttttttcat 2400
 ggccatgcag tattccatat tgcgtataga tcacattttc tttctttttt ttttttgaga 2460
 cggagtcttg ctttgcctgc taggctggag tgcagtagca cgatctcggc tcaactgcaag 2520
 cttcacctcc ggggttcacg tcattcttct gtctcagctt cccaagtagc tgggactaca 2580
 ggcgcccgc accacgtccg gctaattttt ttgtgtgttt ttagtagaga tgggggtttc 2640
 actgtgttag ccaggatggt cttgatctcc tgacctgtg gtccacctgc ctcggtctcc 2700
 caaagtgtg ggattacagg ggtgagccac tgcgcccggc ccatatatac cacattttct 2760
 ttaaccaatc caccattgat gggcaactag gtagattcca tggattccac agttttgcta 2820
 ttgtgtgcag tgtggcagta gacatatgaa tgaatgtgtc tttttggtat aatgatttgc 2880
 attcctttgg gtatacagtc attaatagga gtgctgggtt gaacggtggc tctgtttaaa 2940
 attctttgag aattttccaa actgtttgcc atagagagca aactaattta cttttccacg 3000
 aacagtatat aagcattccc tttctccac agctttgtca tcatggtttt ttttttctt 3060
 tattttaaaa aagaatatgt tgttgttttc ccagggtaca tgtgcaggat gtgcaggttt 3120
 gttacatagg tagtaaactg gagccatggt ggtttgctgc acctgtcaac ccattacctg 3180
 ggtatgaagc cctgcctgca ttagctcttt tccctaagc tctcactact gccccaccct 3240
 caccctgaca gggcaaacag acaacctaca gaatgggagg aaatttttgc aatctattca 3300
 tctgacaaag gtcaagaata tccagaatct acaaggaact taagcaaatt tttacttttt 3360
 aataatagcc actctgactg gcgtgaaatg gtatctcatt gtggttttca tttgaatttc 3420
 tctgatgac agtgacgatg agcatttttt catatttggt ggctgcttgt acgtcttttg 3480
 agaagtgtct cttcatgcct tttggccact ttaatgggat tattttttgc tttttagttt 3540
 aagtctctta tagattctgg atattagact tcttattgga tgcatagttt gtgaatactc 3600
 tcttccatc tgtaggttgt ctgtttactc tattgatggc ttcttttgct gtgccgaagc 3660
 atcttagttt aattagaaac cacctgccaa tttttgtttt tgttgcaatt gcttttgggg 3720
 acttagtcat aaactctttg ccaaggctct ggtcaagaag agtatttctt aggttttctt 3780
 ctagaatttt gaaagtctga atgtaaacad ttgcattttt aatgcatctt gagttagttt 3840
 ttgtatatgt gaaaggctca ctctcatttt ctttccctct ttctttcttt ctttcttttc 3900
 tttctttctt tctttctttc tttctttctt tctttctttc tttctttttg tccttctttc 3960
 tttctttctt tctctttctt tctctctttc tttttttttt ttgatggagt attgctctgt 4020
 tgcccaggct gcagtgcagc ggcacgatct cggctcactg caacctctgc ctctgggtt 4080

caactgattc tcttgcata gccttccaag tagctgggat tataggcgcc cgccaccacg 4140
 cccgactaat ttttgtattt ttagtagaga cgggggtgtg ccatgttggc caggctggtt 4200
 tgaaactcct gacctcaaac gatctgcctg ccttggcctc ccaaagtgtt gggattacag 4260
 gtgtgagcca ctgtgccag ccaagaatgt ctttttctaa gaggtccaag aacctcaaga 4320
 tatttttgga ccttgagaag agaggaattc atacaggtat tacaagcaca gcctaattggc 4380
 aaatcttttg catggcttgg cttcaagact ttaggtctctt aaaagtcgaa tccaaaaatt 4440
 ttataaaaag ctccagctaa gctaccttaa aaggggcctg tatggctgat cactcttctt 4500
 gctatacttt acacaaataa acaggccaaa tataatgagg ccaaaattta ttttgcaaat 4560
 aaattggtcc tgctatgatt tactcttggg aagaacaggg aaaatagaga aaaatttaga 4620
 ttgcatctga ctttttttct tgaattttta tatgtgccta caatttgagc taaatcctga 4680
 attattttct ggttgcaaaa actctctaaa gaagaacttg gttttcattg tcttcgtgac 4740
 acatttatct ggctctttac tagaacagct ttcttgtttt tgggtgttcta gcttgtgtgc 4800
 cttacagttc tactcttcaa attattgtta tgtgtatctc atagttttcc ttcttttgag 4860
 aaaactgaag ccatggtatt ctgaggacta gagatgactc aacagagctg gtgaatctcc 4920
 tcatatgcaa tccactgggc tcgatctgct tcaaattgct gatgcactgc tgctaaagct 4980
 atacatttaa aaccctcact aaaggatcag ggaccatcat ggaagaggag gaaacatgaa 5040
 attgtaagag ccagattcgg ggggtagagt gtggagggtca gagcaactcc acctgaata 5100
 agaaggtaaa gcaacctatc ctgaaagcta acctgccatg gtggcttctg attaacctct 5160
 gttctaggaa gactgacagt ttgggtctgt gtcattgccc aaatctcatg ttaaattgta 5220
 atccccagtg ttcggagggt ggacttgggt gtaggtgatt cggtcatggg agtagatttt 5280
 cttctttgtg gtgttacagt gatagtgagt gagttctcgt gagatctggt catttaaaag 5340
 tgtgtggccc ctccccctcc tctcttgggc ctccactgc catgtaagat acctgctcct 5400
 gctttgcctt ctaccataag taaaagcccc ctgaggcctc ccagaagca gatgccacca 5460
 tgcttcctgt acagcctgca gaaccatcag ccaattaaac ctcttttctg tataaattac 5520
 cagtcttgag tatctcttta cagcagtgtg agaacggact aatacaaggg tctccaaaat 5580
 tccaagttta tgtattcttt cttgccaaat agcagggtatt taccataaat cctgtcctta 5640
 ggtcaaacia ccttgatggc atcgtacttc aattgtctta cacattcctt ctgaatgact 5700
 cctcccctat ggcatataag ccctgggtct tgggggataa tggcagaggg gtccaccatc 5760

ttgtctggct gccacctgag acacggacat ggcttctgtt ggtaagtctc tattaaatgt 5820
 ttctttctaa gaaactggat ttgtcagctt gtttctttgg cctctcagct tcctcagact 5880
 ttggggtagg ttgcacaacc ctgcccacca cgaaacaaat gtttaatatg ataaatatgg 5940
 atagatataa tccacataaa taaaagctct tggaggggccc tcaataattg ttaagagtgt 6000
 aaatgtgtcc aaagatggaa aatgtttgag aactactgtc ccagagattt tcctgagttc 6060
 tagagtgtgg gaatatagaa cctggagctt ggcttcttca gcctagaatc aggagtatgg 6120
 ggctgaagtc tgaagcttgg cttcagcagt ttggggttgg cttccggagc acatatttga 6180
 catgttgcca ctgtgatttg gggtttggtt tttgctctga atcctaattg ctgtccttga 6240
 ggcatctaga atctgaaatc tgtggtcaga attctattat cttgagtagg acatctccag 6300
 tcctggttct gccttctagg gctggagtct gtagtcagtg acccggtctg gcatttcaac 6360
 ttcatataca gtgggctatc ttttgggtcca tgtttcaacc aaacaaccga ataaaccatt 6420
 agaacctttc cccacttccc tagctgcaat gttaaacctt ggatttctgt ttaatagggtt 6480
 catatgaata atttcagcct gatccaactt tacattcctt ctaccgttat tctacacca 6540
 ccttaaaaat gcattcccaa tatattccct ggattctacc tatatatggg aatcctggct 6600
 ttgccagttt ctagtgcatt aacataacctg atttacattc ttttacttta aagtggaaat 6660
 aagagtcctt ctgcagagtt caggagtctt caagatggcc cttacttctg acatcaattg 6720
 agatttcaag ggagtcgcca agatcatcct caggttcagt gattgctggg agccctcata 6780
 taactcaatg aaagctgtta tgctcatggc tatggtttat tacagcaaaa gaatagagat 6840
 gaaaatctag caaggaaga gttgcatggg gcaaagacaa ggagagctcc aagtgcagag 6900
 attcctgttg ttttctccca gtgggtgcat ggaaagcagt atcttctcca tacaatgatg 6960
 tgtgataata ttcaagtgtat tgccaatcag ggaactcaac tgagccttga ttatattgga 7020
 gcttggttgc acagacatgt cgaccacctt catggctgaa ctttagtact tagccctcc 7080
 agacgtctac agctgatagg ctgtaacca acattgtcac cataaatcac attgttagac 7140
 tatccagtgt ggcccaagct cccgtgtaaa cacaggcact ctaaacaggc aggatatttc 7200
 aaaagcttag agatgacctc ccaggagctg aatgcaaaga cctggcctct ttgggcaagg 7260
 agaatccttt accgcacact ctcttcaca gggttattgt gaggatcaaa tgtggtcag 7320
 tgtgtgagac accagcacat gtctggctgt ggagagtgc ttctatgtgt gctaacattg 7380
 ctgagtgcata agaaagtatt aggcattggc ttcagcactc acagatgctc atctaactct 7440
 cacaacatgg ctacagggtg ggcactacta gcctcatttg acagaggaaa ggactgtgga 7500

taagaagggg gtgaccaata ggtcagagtc attctggatg caaggggctc cagaggacca 7560
 tgattagaca ttgtctgcag agaaattatg gctggatgct tctgccccgg aaagggggat 7620
 gcactttcct tgaccccccta tctcagatct tgactttgag gttatctcag acttctctta 7680
 tgataccagg agcccatcat aatctctctg tgtcctctcc ccttctcag tcttactgcc 7740
 cactcttccc agctccatct ccagctggcc aggtgtagcc acagtaccta actctttgca 7800
 gagaactata aatgtgtatc ctacagggga gaaaaaaaaa aagaactctg aaagagctga 7860
 cattttaccg acttgcaaac acataagcta acctgccagt tttgtgctgg tagaactcat 7920
 gagactcctg ggtcagaggc aaaagatttt attaccaca gctaaggagg cagcatgaac 7980
 tttgtgttca catttgttca ctttgcccc caattcatat gggatgatca gagcagttca 8040
 ggtggatgga cacagggggt tgtggcaaag gtgagcaacc taggcttaga aatcctcaat 8100
 cttataagaa ggtactagca aacttgctca gtctttgtat ctgacggaga tattatcttt 8160
 ataattgggt tgaaagcaga cctactctgg aggaacatat tgtatttatt gtctgaaca 8220
 gtaaacaat ctgctgtaaa atagacgta actttattat ctaaggcagt aagcaaact 8280
 agatctgaag gcgataccat cttgcaaggc tatctgctgt acaaatatgc ttgaaaagat 8340
 ggtccagaaa agaaaacggt attattgcct ttgctcagaa gacacacaga aacataagag 8400
 aaccatggaa aattgtctcc caacactgtt caccagagc cttccactct tgtctgcagg 8460
 acagtcttaa catcccatca ttagtggtgc taccacatct ggcttcaccg tgccaaacca 8520
 agatttctag gtccagttcc ccaccatgtt tggcagtgcc cactgccaa cccagaata 8580
 agggagtgtc cagaattccg aggggacatg ggtggggatc agaacttctg ggcttgagtg 8640
 cagagggggc ccatactcct tggttccgaa ggaggaagag gctggagggtg aatgtccttg 8700
 gaggggagga atgtgggttc tgaactctta aatccccaag ggaggagact ggtaaggtcc 8760
 cagcttccga ggtactgacg tgggaatggc ctgagaggtc taagaatccc gtatcctcgg 8820
 gaaggagggg ctgaaattgt gaggggttga gttgcagggg tttgttagct tgagactcct 8880
 tgggtgggtcc ctgggaagca aggactggaa ccattggctc cagggtttgg tgtgaaggta 8940
 atgggatctc ctgattctca aagggtcaga ggactgagag ttgccatgc tttgatcttt 9000
 ccatctactc cttactccac ttgagggtaa tcacctactc ttctagttcc acaagagtgc 9060
 gcctgcgcga gtataatctg cacatgtgcc atgtcccgag gcctggggca tcatccactc 9120
 atcattcagc atctgcgcta tgcgggcgag gccggcgcca tgacgtcatg tagctgcgac 9180

tattccctgca gcgcgcctct cccgtcacgt cccaacccatg gagctgtgga cgtgcgtccc 9240
ctggtggatg tggcctgcgt ggtgccaggc cggggcctgg tgtccgataa agatcctaga 9300
accacaggaa accaggactg aaaggtgcta gagaatggcc atatgtcgct gtccatgaaa 9360
tctcaaggac ttctgggtgg agggcacagg agcctgaact tacgggtttg cccagttcca 9420
ctgtcctccc aagtgagtct cccagatacg aggcactgtg ccagcatcag cttcatctgt 9480
accacatctt gtaacaggga ctaccaggga ccctgatgaa caccatgggtg tgtgcaggaa 9540
gaggggggtga aggcattggac tcctgtgtgg tcagagccca gagggggcca tgacgggtgg 9600
ggaggaggct gtggactggc tcgagaagtg ggatgtggtt gtgtttgatt tcctttggcc 9660
agataaagtg ctggatatag cattgaaaac ggagtatgaa gaccagttag aatggagggt 9720
caggttggag ttgagttaca gatggggtaa aattctgctt cggatgagtt tggggattgg 9780
caatctaaag gtggtttggg atggcatggc tttgggatgg aaatagggtt gtttttatgt 9840
tggtctggaa ggggtgtggg attgaattgg ggatgaagta ggtttagttt tggagataga 9900
atacatggag ctggctattg catgcgagga tgtgcattag tttggtttga tctttaaata 9960
aaggaggcta ttagggttgt cttgaattag attaagtgtt gttgggttga tgggttgggc 10020
ttgtgggtga tgtggttga ttgggctgtg ttaaattggt ttgggtcagg ttttggttga 10080
ggttatcatg gggatgagga tatgcttggg acatggattc aggtggttct cattcaagct 10140
gaggcaaatt tcctttcaga cggtcattcc agggaacgag tggttgtgtg ggggaaatca 10200
ggccactggc tgtgaatatc cctctatcct ggtcttgaat tgtgattatc tatgtccatt 10260
ctgtctcctt cactgtactt ggaattgatc tggtcattca gctggaaatg ggggaagatt 10320
ttgtcaaatt cttgagacac agctgggtct ggatcagcgt aagccttct tctggtttta 10380
ttgaacagat gaaatcacat tttttttttt aaaatcacag aaatcttata gagttaacag 10440
tggtacttta taataagagt taacaccagg actcttattc ttgattcttt tctgagacac 10500
caaatgaga tttctcaatg ccaccctaatt tctttttttt tttttttttt tttttgagac 10560
acagtctggg tcttttgcct tgtcactcag gctggagcgc agtgggtgtga tcatagctca 10620
ctgaaccctt gacctcctgg acttaaggga tcctcctgct tcagcctcct gagtagatgg 10680
ggctacagggt gcttgccacc acacctggct aattaaattt tttttttttt tttgtagaga 10740
aagggtctca ctttgttgcc ctggctgatc ttgaacttct gacttcaagt gattcttcag 10800
ccttggaact ccaaagcact gggattgctg gcatgagcca ctcaccgtgc ctggcttgca 10860
gcttaatctt ggagtgtata aacctggctc ctgatagcta gacatttcag tgagaaggag 10920

gcattggatt ttgcatgagg acaattctga cctaggaggg caggtcaaca ggaatccccg 10980
ctgtacctgt acgttgtaga ggcatggaga atgaggagtg aggaggccgt accggaaccc 11040
catattgttt agtggacatt ggattttgaa ataatagga acttggtctg ggagagtcac 11100
atctctggat tggacaatat gtggtatcac aagggtttat gatgaggag aaatgtatgt 11160
ggggaacccat tttctgagtg tggaagtgc agaatcagag agtagctgaa tgccaacgct 11220
tctatttcag gaacatggta agttggaggt ccagctctcg ggctcagacg ggtataggga 11280
ccaggaagtc tcacaatccg atcattctga tatttcaggg catattaggt ttgggggtgca 11340
aaggaagtac ttgggactta ggcacatgag actttgtatt gaaaatcaat gattggggct 11400
ggccgtggtg ctcacgcctg taatctcatc actttgggag accgaagtgg gaggatggct 11460
tgatctcaag agttggacac cagcctaggg aacatggcca gaccctctct ctacaaaaaa 11520
attaaaaatt agctggatgt ggtggtgcat gcttgtggtc tcagctatcc tggaggctga 11580
gacaggagaa tcggttgagt ctgggagttc aaggctacag ggagctgca tcacgccgct 11640
gcactccagc ctgggaaaca gaggagact gtctcagaat ttttttaaaa aagaatcagt 11700
gatcatccca acccctgttg ctgttcatcc tgagcctgcc ttctctggct ttgttcctta 11760
gatcacatct ccatgatcca taggcctgc ccaatctgac ctcacaccgt gggaatgcct 11820
ccagactgat ctagtatgtg tggaacagca agtgctggct ctccctccc ttccacagct 11880
ctgggtgtgg gagggggttg tccagcctcc agcagcatgg ggagggcctt ggtcagcatc 11940
taggtgcaa cagggaagg gcggggtcct ggagaatgaa ggctttatag ggctcctcag 12000
ggaggcccc cagcccaaa ctgcaccacc tggccgtgga caccggt 12047

<210> 4
<211> 454
<212> DNA
<213> Homo sapiens

<400> 4
aagcttcac aagtgcattt agcctctcca gtattgctga tgaatccaca gttcagggtc 60
aatggcggtc aaaacttgat caaaaatgac cagactttat attcttacac caacatctat 120
ctgattggag gaatggataa tagtcatcat gtttaaacat ctaccattcc agttaagaaa 180
atatgatagc atcttgttct tagtcttttt cttaataggg acataaagcc cacaaataaa 240
aatatgcctg aagaatggga caggcattgg gcattgtcca tgcctagtaa agtactccaa 300
gaacctatct gtataactaga tgacacaatg tcaatgtctg tgtacaactg ccaactggga 360

tgcaagacac tgcccatgcc aatcatcctg aaaagcagct ataaaaagca ggaagctact 420
 ctgcaccttg tçagtgaggt ccagatacct acag 454

<210> 5
 <211> 5224
 <212> DNA
 <213> Homo sapiens

<400> 5
 gaattccttag aaatatgggg gtaggggtgg tgggtggaat tctgttttca ccccataggt 60
 gagataagca ttgggttaaa tgtgctttca cacacacatc acatttcata agaattaagg 120
 aacagactat gggctggagg actttgagga tgtctgtctc ataacacttg ggttgatatct 180
 gttctatggg gcttgtttta agcttggtcaa cttgcaacag ggttcactga ctttctcccc 240
 aagcccaagg tactgtcctc ttttcataatc tgttttgggg cctctggggc ttgaatatct 300
 gagaaaatat aaacatttca ataatgttct gtgggtgagat gagtatgaga gatgtgtcat 360
 tcatttgtat caatgaatga atgaggacaa ttagtgtata aatccttagt acaacaatct 420
 gagggtaggg gtggtactat tcaatttcta tttataaaga tacttatttc tatttattta 480
 tgcttgtgac aaatgttttg ttcgggacca caggaatcac aaagatgagt ctttgaattt 540
 aagaagttaa tgggtccagga ataattacat agcttacaaa tgactatgat ataccatcaa 600
 acaagaggtt ccatgagaaa ataatctgaa aggtttaata agttgtcaaa ggtgagaggg 660
 ctcttctcta gctagagact aatcagaaat acattcaggg ataattattt gaatagacct 720
 taagggttgg gtacattttg ttcaagcatt gatggagaag gagagtgaat atttgaaaac 780
 attttcaact aaccaaccac ccaatccaac aaacaaaaaa tgaaaagaat ctcagaaaca 840
 gtgagataag agaaggaatt ttctcacaac ccacacgtat agctcaactg ctctgaagaa 900
 gtatatatct aatattttaac actaacatca tgctaataat gataataatt actgtcattt 960
 tttaatgtct ataagtacca ggcattttaga agatattatt ccatttatat atcaaaataa 1020
 acttgagggg atagatcatt ttcattgatat atgagaaaaa ttaaaaacag attgaattat 1080
 ttgcctgtca tacagctaata aattgacat aagacaatta gatttaaatt agttttgaat 1140
 ctttctaata ccaaagttca gtttactgtt ccatgttgct tctgagtggc ttcacagact 1200
 tatgaaaaag taaacggaat cagaattaca tcaatgcaaa agcattgctg tgaactctgt 1260
 acttaggact aaactttgag caataacaca catagattga ggattgtttg ctgttagcat 1320
 acaaactctg gttcaaagct cctctttatt gcttgtcttg gaaaatttgc tgttcttcat 1380

ggtttctctt ttcactgcta tctatTTTTc tcaaccactc acatggctac aataactgtc 1440
 tgcaagctta tgattcccaa atatctatct ctagcctcaa tcttgttcca gaagataaaa 1500
 agtagtattc aaatgcacat caacgtctcc acttgaggagg cttaaagacg tttcaacata 1560
 caaaccgggg agttttgcct ggaatgtttc ctaaaatgtg tcctgtagca cataggggtcc 1620
 tcttgttcct taaaatctaa ttacttttag ccagtgctc atcccaccta tggggagatg 1680
 agagtgaaaa gggagcctga ttaataatta cactaagtca ataggcatag agccaggact 1740
 gtttggttaa actggtcact ttatcttaaa ctaaatatat ccaaaactga acatgtactt 1800
 agttactaag tctttgactt tatctcattc ataccactca gctttatcca ggccacttat 1860
 ttgacagtat tattgcgaaa acttcctaac tgggtctcctt atcatagtct tatccccctt 1920
 tgaaacaaaa gagacagttt caaaatacaa atatgatttt tattagctcc cttttgttgt 1980
 ctataatagt ccagaagga gttataaact ccatttaaaa agtctttgag atgtggccct 2040
 tgccaacttt gccaggaatt ccgaatatct agtatTTTct actattaaac tttgtgcctc 2100
 ttcaaaactg cttttctct cattccctaa gtgtgcattg ttttccctta ccggttggtt 2160
 tttccaccac cttttacatt ttcttgaac actataccct ccctcttcat ttggcccacc 2220
 tctaattttc tttcagatct ccatgaagat gttacttctt ccaggaagcc ttatctgacc 2280
 cctccaaaga tgcatgagt tctctttttc attctactaa tcacagcatc catcacacca 2340
 tgttgtgatt actgatacta ttgtctgttt ctctgattag gcagtaagct caacaagagc 2400
 tacatggtgc ctgtctcttg ttgctgatta ttcccatcca aaaacagtgc ctggaatgca 2460
 gacttaacat tttattgaat gaataaataa aaccccatct atcgagtgtc actttgtgca 2520
 agaccgggtt ctgaggcatt tatatttatt gatttattta attctcattt aaccatgaag 2580
 gaggtactat cactatcctt attttatagt tgataaagat aaagcccaga gaaatgaatt 2640
 aactcaccca aagtcattgta gctaagtgc agggcaaaaa ttcaaaccag ttccccaaact 2700
 ttacgtgatt aatactgtgc tatactgcct ctctgatcat atggcatgga atgcagacat 2760
 ctgctccgta aggcagaata tggaaggaga ttggaggatg acacaaaacc agcataatat 2820
 cagaggaaaa gtccaaacag gacctgaact gatagaaaag ttgttactcc tgggtgtagtc 2880
 gcatcgacat cttgatgaac tgggtggctga cacaacatac attggcttga tgtgtacata 2940
 ttattttagt ttgtgtgtgt atttttatat atatatttgt aatattgaaa tagtcataat 3000
 ttactaaagg cctaccattt gccaggcatt ttacatttg tccccctaa tcttttgatg 3060

agatgatcag attggattac ttggccttga agatgatata tctacatcta tatctatatc 3120
 tataatctata tctatatcta tatctatatc tataatctata tatgtatatc agaaaagctg 3180
 aaatatgttt tgtaaagtta taaagatttc agactttata gaatctggga tttgccaaat 3240
 gtaaccctt tctctacatt aaaccatgt tggaacaaat acatttatta ttcattcatc 3300
 aaatgttgct gagtcctggc tatgaaccag acactgtgaa agcctttggg atattttgcc 3360
 catgcttggg caagcttata tagtttgctt cataaaactc tatttcagtt cttcataact 3420
 aatacttcat gactattgct tttcaggtat tccttcataa caaatacttt ggctttcata 3480
 tatttgagta aagtccccct tgaggaagag tagaagaact gcactttgta aatactatcc 3540
 tggaatcaa acggatagac aaggatggtg ctacctcttt ctggagagta cgtgagcaag 3600
 gcctgttttg ttaacatgtt ccttaggaga caaaacttag gagagacacg catagcagaa 3660
 aatggacaaa aactaacaaa tgaatgggaa ttgtacttga ttagcattga agaccttggt 3720
 tatactatga taaatgtttg tatttgctgg aagtgtctact gacggtaaac cctttttggt 3780
 taaatgtgtg ccctagtagc ttgcagtatg atctatcttt taagtactgt acttagctta 3840
 tttaaaaatt ttatgtttta aattgcatag tgctctttca ttgaagaagt tttgagagag 3900
 agatagaatt aaattcactt atcttaccat ctagagaaac ccaatgttaa aactttgttg 3960
 tccattatct ctgtctttta ttcaacattt tttttagagg gtgggaggaa tacagaggag 4020
 gtacaatgat acacaaatga gagcactctc catgtattgt tttgtcctgt ttttcagtta 4080
 acaatatatt atgagcatat ttccatttca ttaaatactt ttccacaaag ttattttgat 4140
 ggctgtatat caccctactt tatgaatgta ccatattaat ttatttcctg gtgtgggtta 4200
 tttgatttta taatcttacc tttagaataa tgaaacacct gtgaagcttt agaaaatact 4260
 ggtgcctggg tctcaactcc acagattctg atttaactgg tctgggttac agactaggca 4320
 ttgggaattc aaaaagttcc ccagtgatt ctaatgtgta gccaatgctg ggaacccttg 4380
 tagacaggga tgataggagg tgagccactc ttagcatcca tcatttagta ttaacatcat 4440
 catcttgagt tgctaagtga atgatgcacc tgaccactt tataaagaca catgtgcaaa 4500
 taaaattatt ataggacttg gtttattagg gcttgtgctc taagttttct atgttaagcc 4560
 atacatcgca tactaaatac tttaaaatgt accttattga catacatatt aagtgaaaaag 4620
 tgtttctgag ctaaacaatg acagcataat tatcaagcaa tgataatttg aaatgaattt 4680
 attattctgc aacttaggga caagtcactc ctctgaattt tttgtacttt gagagtattt 4740
 gttatatttg caagatgaag agtctgaatt ggtcagacaa tgtcttgtgt gcctggcata 4800

tgatagggcat ttaatagttt taaagaatta atgtatttag atgaattgca taccaaactct 4860
 gctgtctttt ctttatggct tcattaactt aatttgagag aaattaatta ttctgcaact 4920
 tagggacaag tcatgtcttt gaatattctg tagtttgagg agaataattg ttatatttgc 4980
 aaaataaaat aagtttgcaa gttttttttt tctgccccaa agagctctgt gtccttgaac 5040
 ataaaataca aataaccgct atgctgttaa ttattggcaa atgtcccatt ttcaacctaa 5100
 ggaaatacca taaagtaaca gatataccaa caaaagggtta ctagttaaca ggcattgcct 5160
 gaaaagagta taaaagaatt tcagcatgat tttccatatt gtgcttccac cactgccaat 5220
 aaca 5224

<210> 6
 <211> 822
 <212> DNA
 <213> Homo sapiens

<400> 6
 gcattgctgt gaactctgta cttaggacta aactttgagc aataacacac atagattgag 60
 gattgtttgc tgttagcata caaactctgg ttcaaagctc ctctttattg cttgtcttgg 120
 aaaatttgct gttcttcatg gtttctcttt tcaactgctat ctatttttct caaccactca 180
 catggctaca ataactgtct gcaagcttat gattcccaaa tatctatctc tagcctcaat 240
 cttgttccag aagataaaaa gtagtattca aatgcacatc aacgtctcca cttggagggc 300
 ttaaagacgt ttcaacatac aaaccgggga gttttgctg gaatgtttcc taaaatgtgt 360
 cctgtagcac atagggctct cttgttcctt aaaatctaata tacttttagc ccagtgtctca 420
 tcccacctat ggggagatga gagtgaaaag ggagcctgat taataattac actaagtcaa 480
 taggcataga gccaggactg tttgggtaaa ctggtcactt tatcttaaac taaatatatc 540
 caaaactgaa catgtactta gttactaagt ctttgacttt atctcattca taccactcag 600
 ctttatccag gccacttatg agctctgtgt cttgaacat aaaatacaaa taaccgctat 660
 gctgttaatt attggcaaat gtcccatttt caacctaagg aaataccata aagtaacaga 720
 tataccaaca aaagggttact agttaacagg cattgcctga aaagagtata aaagaatttc 780
 agcatgattt tccatattgt gcttccacca ctgccaataa ca 822

<210> 7
 <211> 472
 <212> DNA
 <213> Homo sapiens

<400> 7

agccaccacc cagtgagcct ttttctagcc cccagagcca cctctgtcac ctctctgttg 60
ggcatcatcc caccttccca gagccctgga gagcatgggg agaccggga ccctgctggg 120
tttctctgtc acaaaggaaa ataatcccc tggtgtgaca gaccaagga cagaacacag 180
cagaggtcag cactggggaa gacaggttgt cctcccaggg gatgggggtc catccacctt 240
gccgaaaaga tttgtctgag gaactgaaaa tagaaggga aaaagaggag ggacaaaaga 300
ggcagaaatg agaggggagg ggacagagga cacctgaata aagaccacac ccatgacca 360
cgtgatgctg agaagtactc ctgccctagg aagagactca gggcagaggg aggaaggaca 420
gcagaccaga cagtcacagc agccttgaca aaacgttcct ggaactcaag ca 472

<210> 8

<211> 858

<212> DNA

<213> Homo sapiens

<400> 8

cgagcggccc ctcaacttcg gcgcccagcc ccgcaaggct cccggtgacc actagagggc 60
gggaggagct cctggccagt ggtggagagt ggcaaggaag gaccctaggg ttcacggag 120
cccaggttta ctcccttaag tggaaatttc ttccccact cctccttggc tttctccaag 180
gagggaaacc aggtctctgg aaagtccggc tggggcgggg actgtgggtt caggggagaa 240
cggggtgtgg aacgggacag ggagcgggta gaaggggtgg gctattccgg gaagtgggtg 300
ggggagggag cccaaaacta gcacctagtc cactcattat ccagccctct tatttctcgg 360
ccgctctgct tcagtggacc cggggagggc ggggaagtgg agtgggagac ctaggggtgg 420
gcttcccgac cttgctgtac aggacctga cctagctggc ttgtttccc atccccacgt 480
tagttgttgc cctgaggcta aaactagagc ccagggggcc caagttccag actgcccctc 540
ccccctcccc cggagccagg gagtgggttg tgaaaggggg aggccagctg gagaacaaac 600
gggtagtcag ggggttgagc gattagagcc cttgtaccct acccaggaat gggtggggag 660
gaggaggaag aggtaggagg taggggaggg ggcgggggtt tgtcacctgt cacctgctcg 720
ctgtgcctag ggcgggcggg cggggagtgg ggggaccggt ataaagcggg aggcgcctgt 780
gcccgctcca cctctcaagc agccagcgcc tgctgaatc tgttctgccc cctccccacc 840
catttcacca ccaccatg 858

<210> 9

<211> 454
 <212> DNA
 <213> Homo sapiens

<400> 9
 aagcttccac aagtgcattt agcctctcca gtattgctga tgaatccaca gttcaggttc 60
 aatggcggttc aaaacttgat caaaaatgac cagactttat attcttacac caacatctat 120
 ctgattggag gaatggataa tagtcatcat gtttaaacat ctaccattcc agttaagaaa 180
 atatgatagc atcttggttct tagtcttttt cttaataggg acataaagcc cacaataaaa 240
 aatatgcctg aagaatggga caggcattgg gcattgtcca tgcctagtaa agtactccaa 300
 gaacctatatt gtataactaga tgacacaatg tcaatgtctg tgtacaactg ccaactggga 360
 tgcaagacac tgcccatgcc aatcatcctg aaaagcagct ataaaaagca ggaagctact 420
 ctgcaccttg tcagtgaggt ccagatacct acag 454

<210> 10
 <211> 307
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (2)..(304)

<400> 10
 g atg acc ggc tca acc atc gcg ccc aca acg gac tat cgc aac acc act 49
 Met Thr Gly Ser Thr Ile Ala Pro Thr Thr Asp Tyr Arg Asn Thr Thr
 1 5 10 15
 gct acc gga cta aca tct gcc cta aat tta ccc caa gtt cat gcc ttt 97
 Ala Thr Gly Leu Thr Ser Ala Leu Asn Leu Pro Gln Val His Ala Phe
 20 25 30
 gtc aat gac tgg gcg agc ttg gac atg tgg tgg ttt tcc ata gcg ctt 145
 Val Asn Asp Trp Ala Ser Leu Asp Met Trp Trp Phe Ser Ile Ala Leu
 35 40 45
 atg ttt gtt tgc ctt att att atg tgg ctt att tgt tgc cta aag cgc 193
 Met Phe Val Cys Leu Ile Ile Met Trp Leu Ile Cys Cys Leu Lys Arg
 50 55 60
 aga cgc gcc aga ccc ccc atc tat agg.cct atc att gtg ctc aac cca 241
 Arg Arg Ala Arg Pro Pro Ile Tyr Arg Pro Ile Ile Val Leu Asn Pro
 65 70 75 80
 cac aat gaa aaa att cat aga ttg gac ggt ctg aaa cca tgt tct ctt 289
 His Asn Glu Lys Ile His Arg Leu Asp Gly Leu Lys Pro Cys Ser Leu
 85 90 95
 ctt tta cag tat gat taa 307

Leu Leu Gln Tyr Asp
100

<210> 11
<211> 101
<212> PRT
<213> Homo sapiens

<400> 11
Met Thr Gly Ser Thr Ile Ala Pro Thr Thr Asp Tyr Arg Asn Thr Thr
1 5 10 15
Ala Thr Gly Leu Thr Ser Ala Leu Asn Leu Pro Gln Val His Ala Phe
20 25 30
Val Asn Asp Trp Ala Ser Leu Asp Met Trp Trp Phe Ser Ile Ala Leu
35 40 45
Met Phe Val Cys Leu Ile Ile Met Trp Leu Ile Cys Cys Leu Lys Arg
50 55 60
Arg Arg Ala Arg Pro Pro Ile Tyr Arg Pro Ile Ile Val Leu Asn Pro
65 70 75 80
His Asn Glu Lys Ile His Arg Leu Asp Gly Leu Lys Pro Cys Ser Leu
85 90 95
Leu Leu Gln Tyr Asp
100

<210> 12
<211> 25
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown Organism: unknown

<400> 12
ggacctcgag gtctccatga gctac 25

<210> 13
<211> 23
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown Organism: unknown

<400> 13
agctcgagct tcgggatacct gag 23

<210> 14

<211> 19
 <212> DNA
 <213> Unknown

 <220>
 <223> Description of Unknown Organism: unknown

 <400> 14
 tcgtcttcaa gaattctca 19

<210> 15
 <211> 20
 <212> DNA
 <213> Unknown

 <220>
 <223> Description of Unknown Organism: unknown

 <400> 15
 tttcagtcac cggtgtcggg 20

<210> 16
 <211> 20
 <212> DNA
 <213> Unknown

 <220>
 <223> Description of Unknown Organism: unknown

 <400> 16
 gcattctcta gacacaggtg 20

<210> 17
 <211> 22
 <212> DNA
 <213> Unknown

 <220>
 <223> Description of Unknown Organism: unknown

 <400> 17
 tccgacaccg ggtgacctga aa 22

<210> 18
 <211> 29
 <212> DNA
 <213> Unknown

 <220>
 <223> Description of Unknown Organism: unknown

 <400> 18
 cattaaccgg tacctctaga aaatctagc 29

<210> 19
<211> 27
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown Organism: unknown

<400> 19
cattaaccgg taagcttggg gctgggg 27

<210> 20
<211> 26
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown Organism: unknown

<400> 20
ccgctcgaga tcacactccg ccacac 26

<210> 21
<211> 24
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown Organism: unknown

<400> 21
ccgctcgagc actcttgagt gcca 24

<210> 22
<211> 156
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown Organism: unknown

<400> 22
tcgaggggatg ttgtagtaaa tttgggcgta accgagtaag atttggccat tttcgcgga 60
aaactgaata agactcttcg aaatctgaat aattttgtgt tactcatagc gcgtaatatt 120
tgtctagggc cgcggggact ttgaccgttt acgtgg 156

<210> 23
<211> 156
<212> DNA

<213> Unknown

<220>

<223> Description of Unknown Organism: unknown

<400> 23

gatccacgt aaacgggtcaa agtccccgcg gccctagaca aatattacgc gctatgagta 60

acacaaaatt attcagattt cgaagagtct tattcagttt tcccgcgaaa atggccaaat 120

cttactcggg tacgcccaaa ttactacaa catccc 156

<210> 24

<211> 27

<212> DNA

<213> Unknown

<220>

<223> Description of Unknown Organism: unknown

<400> 24

ggaagatctg aaatctagct gatatag 27

<210> 25

<211> 24

<212> DNA

<213> Unknown

<220>

<223> Description of Unknown Organism: unknown

<400> 25

ttctcgagaa gcttggggct gggg 24

<210> 26

<211> 39

<212> DNA

<213> Unknown

<220>

<223> Description of Unknown Organism: unknown

<400> 26

gtcgacgtga aatctgaata attttgtgtt actcatagc 39

<210> 27

<211> 23

<212> DNA

<213> Unknown

<220>

<223> Description of Unknown Organism: unknown

<400> 27
caccggcgca caccaaaaac gtc

23

<210> 28
<211> 21
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown Organism: unknown

<400> 28
gcccacggcc gcattatata c

21

<210> 29
<211> 21
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown Organism: unknown

<400> 29
gtatataatg cggccgtggg c

21

<210> 30
<211> 21
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown Organism: unknown

<400> 30
ccagaaaatc cagcaggtac c

21

<210> 31
<211> 26
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown Organism: unknown

<400> 31
taacggccgt ctagaaatct agctga

26

<210> 32
<211> 23
<212> DNA
<213> Unknown

<220>
 <223> Description of Unknown Organism: unknown

 <400> 32
 taacggccga agcttgggct ggg 23

 <210> 33
 <211> 20
 <212> DNA
 <213> Unknown

 <220>
 <223> Description of Unknown Organism: unknown

 <400> 33
 taactcacgt tgtgcattgt 20

 <210> 34
 <211> 21
 <212> DNA
 <213> Unknown

 <220>
 <223> Description of Unknown Organism: unknown

 <400> 34
 ggtgccgtgc tcgagtgggtg t 21

 <210> 35
 <211> 21
 <212> DNA
 <213> Unknown

 <220>
 <223> Description of Unknown Organism: unknown

 <400> 35
 acaccactcg agcacggcac c 21

 <210> 36
 <211> 24
 <212> DNA
 <213> Unknown

 <220>
 <223> Description of Unknown Organism: unknown

 <400> 36
 gctactatttc gacagtttgt actg 24

 <210> 37
 <211> 27

<212> DNA
 <213> Unknown

 <220>
 <223> Description of Unknown Organism: unknown

 <400> 37
 gggtcgacgt acctctagaa atctagc 27

 <210> 38
 <211> 30
 <212> DNA
 <213> Unknown

 <220>
 <223> Description of Unknown Organism: unknown

 <400> 38
 gtttgtgtat tttagatcaa agatgctgca 30

 <210> 39
 <211> 26
 <212> DNA
 <213> Unknown

 <220>
 <223> Description of Unknown Organism: unknown

 <400> 39
 gcatctttga tctaaaatac acaaac 26

 <210> 40
 <211> 30
 <212> DNA
 <213> Unknown

 <220>
 <223> Description of Unknown Organism: unknown

 <400> 40
 taaaggagga gatctgccta aaacactgca 30

 <210> 41
 <211> 25
 <212> DNA
 <213> Unknown

 <220>
 <223> Description of Unknown Organism: unknown

 <400> 41
 gtgttttagg cagatctcct ccttt 25

<210> 42
<211> 43
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown Organism: unknown

<400> 42
gcaaccacc ggtgctaatac aagtatggca aaggagtaag cgc 43

<210> 43
<211> 26
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown Organism: unknown

<400> 43
tggccttgct agactgctcc ttcagc 26

<210> 44
<211> 822
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown Organism: unknown

<400> 44
gcattgctgt gaactctgta cttaggacta aactttgagc aataacacac atagattgag 60
gattgtttgc tgttagcata caaactctgg ttcaaagctc ctctttattg cttgtcttgg 120
aaaatttgct gttcttcatg gtttctcttt tcaactgctat ctatttttct caaccactca 180
catggctaca ataactgtct gcaagcttat gattcccaaa tatctatctc tagcctcaat 240
cttgttccag aagataaaaa gtagtattca aatgcacatc aacgtctcca cttggagggc 300
ttaaagacgt ttcaacatac aaaccgggga gttttgcctg gaatgtttcc taaaatgtgt 360
cctgtagcac atagggctct cttgttcctt aaaatctaata tacttttagc ccagtgtctca 420
tcccacctat ggggagatga gagtgaaaag ggagcctgat taataattac actaagtcaa 480
taggcataga gccaggactg tttgggtaaa ctggtcactt tatcttaaac taaatatatc 540
caaaactgaa catgtactta gttactaagt ctttgacttt atctcattca taccactcag 600
ctttatccag gccacttatg agctctgtgt ccttgaacat aaaatacaaa taaccgctat 660
gctgttaatt attggcaaata gtcccatttt caacctaagg aaataccata aagtaacaga 720

tataccaaca aaaggttact agttaacagg cattgcctga aaagagtata aaagaatttc 780
 agcatgattt tccatattgt gcttccacca ctgccaataa ca 822

<210> 45
 <211> 5224
 <212> DNA
 <213> Unknown

<220>
 <223> Description of Unknown Organism: unknown

<400> 45
 gaattccttag aaatatgggg gtaggggtgg tgggtgtaat tctgttttca ccccataggt 60
 gagataagca ttgggttaaa tgtgctttca cacacacatc acatttcata agaattaagg 120
 aacagactat gggctggagg actttgagga tgtctgtctc ataacacttg ggttgatatct 180
 gttctatggg gcttggttta agcttggaac cttgcaacag ggttcactga ctttctcccc 240
 aagcccaagg tactgtcctc ttttcatatc tgttttgggg cctctggggc ttgaatatct 300
 gagaaaatat aaacatttca ataatgttct gtggtgagat gagtatgaga gatgtgtcat 360
 tcatttgtat caatgaatga atgaggacaa ttagtgtata aatccttagt acaacaatct 420
 gagggtaggg gtggtactat tcaatttcta tttataaaga tacttatttc tatttattta 480
 tgcttgtgac aaatgttttg ttcgggacca caggaatcac aaagatgagt ctttgaattt 540
 aagaagttaa tgggtccagga ataattacat agcttacaaa tgactatgat ataccatcaa 600
 acaagagggt ccatgagaaa ataatctgaa aggtttaata agttgtcaaa ggtgagaggg 660
 ctcttctcta gctagagact aatcagaaat acattcaggg ataattattt gaatagacct 720
 taagggttgg gtacattttg ttcaagcatt gatggagaag gagagtgaat atttgaaaac 780
 attttcaact aaccaaccac ccaatccaac aaacaaaaaa tgaaaagaat ctcaaaaaca 840
 gtgagataag agaaggaatt ttctcacaac ccacacgtat agtcaactg ctctgaagaa 900
 gtatatatct aatatttaac actaacatca tgctaataat gataataatt actgtcattt 960
 tttaatgtct ataagtacca ggcattttaga agatattatt ccatttatat atcaaaaataa 1020
 acttgagggg atagatcatt ttcattgatat atgagaaaaa ttaaaaacag attgaattat 1080
 ttgcctgtca tacagctaat aattgaccat aagacaatta gatttaaatt agttttgaat 1140
 ctttctaata ccaaagttca gtttactgtt ccatgttgct tctgagtggc ttcacagact 1200
 tatgaaaaag taaacggaat cagaattaca tcaatgcaaa agcattgctg tgaactctgt 1260

acttaggact aaactttgag caataacaca catagattga ggattgtttg ctgtagcat 1320
 acaaactctg gttcaaagct cctctttatt gcttgtcttg gaaaatttgc tgttcttcat 1380
 ggtttctctt ttcactgcta tctatttttc tcaaccactc acatggctac aataactgtc 1440
 tgcaagctta tgattcccaa atatctatct ctagcctcaa tcttgttcca gaagataaaa 1500
 agtagtatte aaatgcacat caacgtctcc acttggaggg cttaaagacg tttcaacata 1560
 caaacgggg agttttgcct ggaatgtttc ctaaaatgtg tcctgtagca cataggggtcc 1620
 tcttgttcct taaaatctaa ttacttttag ccagtgctc atcccaccta tggggagatg 1680
 agagtgtaaa gggagcctga ttaataatta cactaagtca ataggcatag agccaggact 1740
 gtttgggtaa actggtcact ttatcttaaa cttaatatat ccaaaactga acatgtactt 1800
 agttactaag tctttgactt tatctcatte ataccactca gctttatcca ggccacttat 1860
 ttgacagtat tattgcgaaa acttcctaac tgggtctcctt atcatagtct tatccccctt 1920
 tgaaacaaaa gagacagttt caaaatacaa atatgatttt tattagctcc cttttgttgt 1980
 ctataatagt ccagaagga gttataaact ccatttaaaa agtctttgag atgtggccct 2040
 tgccaacttt gccaggaatt cccaatatct agtatcttct actattaaac tttgtgcctc 2100
 ttcaaaactg cattttctct cattccctaa gtgtgcattg ttttccctta ccggttggtt 2160
 tttccaccac cttttacatt ttcttgaac actataccct ccctcttcat ttggcccacc 2220
 tctaattttc tttcagatct ccatgaagat gttacttctt ccaggaagcc ttatctgacc 2280
 cctccaaaga tgtcatgagt tcctcttttc attctactaa tcacagcatc catcacacca 2340
 tgttgtgatt actgatacta ttgtctgttt ctctgattag gcagtaagct caacaagagc 2400
 tacatggtgc ctgtctcttg ttgctgatta ttcccatcca aaaacagtgc ctggaatgca 2460
 gacttaacat ttatttgaat gaataaataa aaccccatct atcgagtgtc actttgtgca 2520
 agaccggtt ctgaggcatt tatatttatt gatttattta attctcattt aaccatgaag 2580
 gaggtactat cactatcctt attttatagt tgataaagat aaagcccaga gaaatgaatt 2640
 aactcaccca aagtcatgta gctaagtgc agggcaaaaa ttcaaaccag ttcccaact 2700
 ttacgtgatt aatactgtgc tatactgcct ctctgatcat atggcatgga atgcagacat 2760
 ctgctccgta aggcagaata tggaaggaga ttggaggatg acacaaaacc agcataatat 2820
 cagaggaaaa gtccaaacag gacctgaact gatagaaaag ttgttactcc tgggtgtagtc 2880
 gcatcgacat cttgatgaac tgggtggctga cacaacatac attggcttga tgtgtacata 2940
 ttattttagt ttgtgtgtgt atttttatat atatatttgt aatattgaaa tagtcataat 3000

ttactaaagg cctaccattht gccaggcatt ttacatthtg tccctctaa tcttttgatg 3060
 agatgatcag attggattac ttggccttga agatgatata tctacatcta tatctatatc 3120
 tatactata tctatatcta tatctatatc tatactata tatgtatatc agaaaagctg 3180
 aaatatgttt tgtaaagtta taaagatttc agactttata gaactctggga tttgccaaat 3240
 gtaaccctt tctctacatt aaacccatgt tggaacaaat acatttatta ttcattcatc 3300
 aaatgttgct gagtcctggc tatgaaccag aactgtgaa agcctttggg atattttgcc 3360
 catgcttggg caagcttata tagtttgctt cataaaactc tatttcagtt cttcataact 3420
 aatacttcat gactattgct tttcaggtat tcttcataa caaatacttt ggctttcata 3480
 tatttgagta aagtccttct tgaggaagag tagaagaact gcactttgta aatactatcc 3540
 tggaatcaa acggatagac aaggatggtg ctacctctt ctggagagta cgtgagcaag 3600
 gcctgttttg ttaacatgtt ccttaggaga caaaacttag gagagacacg catagcagaa 3660
 aatggacaaa aactaacaaa tgaatgggaa ttgtacttga ttagcattga agacctgtt 3720
 tatactatga taaatgtttg tatttgctgg aagtgtact gacggtaaac cttttttgtt 3780
 taaatgtgtg ccttagtagc ttgcagtatg atctatthtt taagtactgt acttagctta 3840
 tttaaaaatt ttatgtttta aattgcatag tgctctttca ttgaagaagt tttgagagag 3900
 agatagaatt aaattcactt atcttaccat ctagagaaac ccaatgttaa aactttgttg 3960
 tccattatth ctgtctthtt ttcaacatth ttttttagagg gtgggaggaa tacagaggag 4020
 gtacaatgat acacaaatga gagcactctc catgtattgt tttgtcctgt ttttcagtta 4080
 acaatatatt atgagcatat ttccatttca ttaaattatc ttccacaaag ttattttgat 4140
 ggctgtatat caccctactt tatgaatgta ccatattaat ttatttcctg gtgtgggtta 4200
 tttgatttth taatcttacc tttagaataa tgaaacacct gtgaagcttt agaaaatact 4260
 ggtgcctggg tctcaactcc acagattctg atttaactgg tctgggttac agactaggca 4320
 ttgggaattc aaaaagttcc ccagtgatt ctaatgtgta gccaaagatc ggaacccttg 4380
 tagacaggga tgataggagg tgagccactc ttagcatcca tcatttagta ttaacatcat 4440
 catcttgagt tgctaagtga atgatgcacc tgaccactt tataaagaca catgtgcaaa 4500
 taaaattatt ataggacttg gtttattagg gcttgtgctc taagttttct atgttaagcc 4560
 atacatcgca tactaaatac tttaaaatgt accttattga catacatatt aagtgaagag 4620
 tgtttctgag ctaaacaatg acagcataat tatcaagcaa tgataatttg aaatgaattt 4680

attattctgc aacttaggga caagtcattt ctctgaattt ttgtacttt gagagtattt 4740
gttatatttg caagatgaag agtctgaatt ggtcagacaa tgtcttgtgt gcctggcata 4800
tgataggcat ttaatagttt taaagaatta atgtatttag atgaattgca taccaaattt 4860
gctgtctttt ctttatggct tcattaactt aatttgagag aaattaatta ttctgcaact 4920
tagggacaag tcattgtctt gaatattctg tagtttgagg agaattattg ttatatttgc 4980
aaaataaaat aagtttgcaa gttttttttt tctgccccaa agagctctgt gtccttgaac 5040
ataaaataca aataaccgct atgctgttaa ttattggcaa atgtccattt ttcaacctaa 5100
ggaaatacca taaagtaaca gatataccaa caaaagggtta ctagttaaca ggcattgcct 5160
gaaaagagta taaaagaatt tcagcatgat ttccatatt gtgcttccac cactgccaat 5220
aaca 5224

<210> 46
<211> 21
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown Organism: Unknown

<400> 46
gccacggcc gcattatata c 21

<210> 47
<211> 21
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown Organism: Unknown

<400> 47
gtatataatg cggcgtggg c 21

<210> 48
<211> 29
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown Organism: Unknown

<400> 48
gtgaccggtg cattgctgtg aactctgta 29

<210> 49
<211> 27
<212> DNA
<213> Unknown

<220>

<223> Description of Unknown Organism: Unknown

<400> 49
ataagtggcc tggataaagc tgagtgg

27

<210> 50
<211> 28
<212> DNA
<213> Unknown

<220>

<223> Description of Unknown Organism: Unknown

<400> 50
gtcaccggtc tttgttattg gcagtgg

28

<210> 51
<211> 30
<212> DNA
<213> Unknown

<220>

<223> Description of Unknown Organism: Unknown

<400> 51
atccaggcca cttatgagct ctgtgtcctt

30

<210> 52
<211> 26
<212> DNA
<213> Unknown

<220>

<223> Description of Unknown Organism: Unknown

<400> 52
tatcggccgg cattgctgtg aactct

26

<210> 53
<211> 26
<212> DNA
<213> Unknown

<220>

<223> Description of Unknown Organism: Unknown

<400> 53

ttacggccgc tttgttattg gcagtg

26

<210> 54
<211> 472
<212> DNA
<213> Unknown

<220>

<223> Description of Unknown Organism: Unknown

<400> 54
agccaccacc cagtgagcct ttttctagcc cccagagcca cctctgtcac cttcctgttg 60
ggcatcatcc caccttccca gagccctgga gagcatgggg agaccggga ccctgctggg 120
tttctctgtc acaaaggaaa ataatcccc tggtgtgaca gacccaagga cagaacacag 180
cagaggtcag cactggggaa gacaggttgt cctcccaggg gatgggggtc catccacctt 240
gccgaaaaga tttgtctgag gaactgaaaa tagaaggga aaaagaggag ggacaaaaga 300
ggcagaaatg agagggggagg ggacagagga cacctgaata aagaccacac ccatgaccca 360
cgtgatgctg agaagtactc ctgccctagg aagagactca gggcagaggg aggaaggaca 420
gcagaccaga cagtcacagc agccttgaca aaacgttcct ggaactcaag ca 472

<210> 55
<211> 26
<212> DNA
<213> Unknown

<220>

<223> Description of Unknown Organism: Unknown

<400> 55
attaccggta gccaccacc agtgag 26

<210> 56
<211> 26
<212> DNA
<213> Unknown

<220>

<223> Description of Unknown Organism: Unknown

<400> 56
tagaccggtg cttgagttcc aggaac 26

<210> 57
<211> 21
<212> DNA
<213> Unknown

<220>
 <223> Description of Unknown Organism: Unknown

 <400> 57
 atttgtctag ggccgggact t 21

 <210> 58
 <211> 24
 <212> DNA
 <213> Unknown

 <220>
 <223> Description of Unknown Organism: Unknown

 <400> 58
 cgcgcgcaaa acccctaaat aaag 24

 <210> 59
 <211> 21
 <212> DNA
 <213> Unknown

 <220>
 <223> Description of Unknown Organism: Unknown

 <400> 59
 taacggccga gccaccaccc a 21

 <210> 60
 <211> 23
 <212> DNA
 <213> Unknown

 <220>
 <223> Description of Unknown Organism: Unknown

 <400> 60
 tatcggccgg cttgagttcc agg 23

 <210> 61
 <211> 307
 <212> DNA
 <213> Unknown

 <220>
 <223> Description of Unknown Organism: Unknown

 <400> 61
 gatgaccggc tcaaccatcg cgcccacaac ggactatcgc aacaccactg ctaccggact 60

 aacatctgcc ctaaatttac cccaagttca tgcctttgtc aatgactggg cgagcttgga 120

catgtggtgg ttttccatag cgcttatgtt tgtttgcctt attattatgt ggcttatttg 180
 ttgcctaaag cgcagacgcg ccagaccccc catctatagg cctatcattg tgctcaaccc 240
 acacaatgaa aaaattcata gattggacgg tctgaaacca tggtctcttc ttttacagta 300
 tgattaa 307

<210> 62
 <211> 26
 <212> DNA
 <213> Unknown

<220>
 <223> Description of Unknown Organism: Unknown

<400> 62
 taatccggac ggtgaccact agaggg 26

<210> 63
 <211> 26
 <212> DNA
 <213> Unknown

<220>
 <223> Description of Unknown Organism: Unknown

<400> 63
 tattccggat cacttaggca gcgctg 26

<210> 64
 <211> 24
 <212> DNA
 <213> Unknown

<220>
 <223> Description of Unknown Organism: Unknown

<400> 64
 taacggccgc ggtgaccact agag 24

<210> 65
 <211> 24
 <212> DNA
 <213> Unknown

<220>
 <223> Description of Unknown Organism: Unknown

<400> 65
 tatcggccgg cagaacagat tcag 24

<210> 66
<211> 34
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown Organism: Unknown

<400> 66
gatcacgggt aagcttccac aagtgcattt agcc 34

<210> 67
<211> 33
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown Organism: Unknown

<400> 67
gatcacgggt ctgtaggtat ctggacctca ctg 33

<210> 68
<211> 34
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown Organism: Unknown

<400> 68
gatccggccg aagcttccac aagtgcattt agcc 34

<210> 69
<211> 33
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown Organism: Unknown

<400> 69
gatccggccg ctgtaggtat ctggacctca ctg 33

<210> 70
<211> 32
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown Organism: Unknown

<400> 70

gatcgggtacc aaaagcttag agatgacctc cc

32

<210> 71

<211> 35

<212> DNA

<213> Unknown

<220>

<223> Description of Unknown Organism: Unknown

<400> 71

gacccctcgag gcaataatac cgttttcttt tctgg

35

1

Error! Main Document Only.

|||